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NOAA REPORT ON NUTRIENT POLLUTION FORECASTS WORSENING HEALTH FOR NATION'S ESTUARIES

The National Oceanic and Atmospheric Administration today released a comprehensive assessment of estuarine eutrophication, or nutrient pollution, which clearly indicates linkages between upstream activities and coastal ecosystem health. The report shows that the majority of U.S. estuaries assessed are highly influenced by human-related activities and points out that eutrophication is a widespread problem globally.

“Observations have confirmed that our nation’s coastal waters are stressed,” said retired Navy Vice Adm. Conrad C. Lautenbacher, Ph.D., under secretary of commerce for oceans and atmosphere and NOAA administrator. “One thing we have learned from this study is that while the accumulation of nutrients in our estuaries has been stable in most of our estuaries, conditions are likely to worsen. The potential for serious degradation in most of our estuaries necessitates that we reinvigorate efforts to address nutrient pollution, and this study helps to confirm that an ecosystem approach is required for improving the health of our estuaries.”

Eutrophication is caused by excess nutrients in the water, which can result in increased blooms of algae, decreased dissolved oxygen and loss of seagrasses. The end result is loss of critical marine life habitat.

The NOAA report, “Effects of Nutrient Enrichment in the Nation’s Estuaries: A Decade of Change, National Estuarine Eutrophication Assessment Update” is an update of the 1999 National Estuarine Eutrophication Assessment, examining eutrophic conditions in 141 U.S. estuaries, and how and why conditions have changed in the decade between the early 1990s and early 2000s. Of the 99 estuaries that had adequate data for evaluation, 64 estuaries have moderate to high level nutrient related impacts.

"The team of scientists that worked on this assessment concluded that most of the problems in the estuaries are related to human activities," said lead report author Suzanne Bricker, Ph.D., of NOAA's Center for Coastal Monitoring and Assessment. "These impacts are occurring in a watershed that currently supports 53 percent of the nation's population, and excluding Alaska accounts for only 17 percent of the nation's land mass. The scientists' assessment is that the ecological health of our coastal waters is seriously threatened by nutrient pollution. We need to comprehensively address the influx of excess nutrients from upland watersheds to protect our nation’s estuaries."

While moderate-to-high-level nutrient-related impacts were reported in systems from all coasts, the Mid-Atlantic region, stretching south from Cape Cod to the Chesapeake Bay, is the most impaired. The North Atlantic region, from Maine to Cape Cod, was the least impaired proportionally. From North Carolina to Florida, a majority of estuaries have moderate or low eutrophic conditions. The Gulf of Mexico estuaries have very large watersheds with low to moderate populations. They are poorly flushed, and as a result have high level of factors that can cause eutrophication. Regardless, Gulf of Mexico estuaries are proportionally less impacted than those in the heavily populated Mid-Atlantic. The Pacific region has very little nutrient load data available, making it difficult to provide an overall assessment.

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In looking ahead, the report predicts that conditions in 65 percent of the nation's estuaries are likely to worsen in the next decade, while only 20 percent will improve. The remaining 15 percent will remain unchanged.

The report's authors did point to several case studies where there is cause for optimism that aggressive management can reverse the trend, citing the Tampa Bay estuary. The bay's water conditions have improved due to regulations that have significantly reduced nutrient loading, thereby clearing the water and allowing seagrasses to rebounded.

This report highlights the need for increased federal, state, local and industry partnerships to work together to find well-balanced solutions that provide measurable benefits to all involved.

The report states "reducing eutropic conditions in estuaries requires coordinated and integrated action that balances management action, efficient monitoring to assess the effectiveness of the management, targeted research and a communications campaign aimed at engaging the broader community." These results will help NOAA and its partners develop appropriate management actions to guide the recovery of affected systems and to protect the nation’s coastal resources from further degradation.

The scientists specifically suggest taking advantage of the developing integrated ocean observing systems, remote sensing technology and web resources to establish an on-going regular assessment of estuaries nationally. They cite the Pacific Northwest as one area where there currently is insufficient data to make accurate forecast of nutrient inputs.

The report was completed in partnership with the University of Maryland Center for Environmental Science with input from a wide array of state, federal, non-governmental, and academic partners. Data and information were acquired from more than 150 scientists and coastal managers through an on-line survey tool and at a national eutrophication workshop in May, 2006.

The National Oceanic and Atmospheric Administration, an agency of the U.S. Commerce Department, is celebrating 200 years of science and service to the nation. From the establishment of the Survey of the Coast in 1807 by Thomas Jefferson to the formation of the Weather Bureau and the Commission of Fish and Fisheries in the 1870s, much of America's scientific heritage is rooted in NOAA.

NOAA is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and information service delivery for transportation, and by providing environmental stewardship of our nation's coastal and marine resources. Through the emerging Global Earth Observation System of Systems (GEOSS), NOAA is working with its federal partners, more than 70 countries and the European Commission to develop a global monitoring network that is as integrated as the planet it observes, predicts and protects.

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